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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,689	01/27/2004	Richard L. Miller	TECH-0039	1443

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EXAMINER
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WEBB, GREGORY E

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/765,689

Applicant(s)

MILLER, RICHARD L.

Examiner

Gregory E. Webb

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 21272004 GW
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Miller, Richard L. (US20030224956).

Concerning the methyl nonafluoroisobutyl ether and the methyl nonafluorobutyl ether, Miller, Richard L. teaches the following:

[0020] In a preferred embodiment, the compositions comprise two different

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fluorinated ethers. For example, a preferred composition comprises methyl nonafluorobutyl ether (CAS No. 163702-07-6) in an amount greater than 0 but not more than about 20 weight percent of the total weight of the composition, and preferably about 1 to about 10 weight percent. A second preferred fluorinated ether, ethyl nonafluoroisobutyl ether (CAS No. 163702-08-7), is preferably present in an amount greater than 0 but not more than about 20 weight percent of the total weight of the composition, preferably about 5 to about 15 weight percent. Methyl nonafluorobutyl ether and ethyl nonafluoroisobutyl ether are preferred because they have desirable high boiling points and are compatible with plastics. Both compounds are commercially available from 3M (Saint Paul, Minn.).

Concerning the methanol, Miller, Richard L. teaches the following:

6. The cleaning composition according to claim 1, wherein the alcohol is selected from the group consisting of methanol, ethanol, n-propanol, isopropanol, n-butanol, sec-butanol, and t-butanol.(see claim 6)

Concerning the n-propyl bromide, Miller, Richard L. teaches the following:

3. The cleaning composition according to claim 1, wherein the halogenated hydrocarbon is selected from the group consisting of trans-1,2-dichloroethylene, trichloroethylene, perchloroethylene or n-propyl bromide(see claim 3).

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Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Doyel, Kyle (US20040224870).

Concerning the methyl nonafluoroisobutyl ether, the methyl nonafluorobutyl ether, the nPB and the methanol, Doyel, Kyle teaches the following (noting that HFE-7100 is a combination of both butyl ethers):

[0014] The use of an HFE is disclosed in a number of patents. U.S. Pat. No. 5,827,812 discloses a number of binary azeotrope-like mixtures with two isomers of perfluorobutyl methyl ether (HFE-7100), a highly fluorinated 5 carbon molecule. Included in disclosed binary azeotropes are trans and cis 1,2-dichloroethylene, methylene chloride, nPB and HCFC-225. U.S. Pat. No. 6,008,179 discloses binary azeotrope-like mixtures between HFE-7100 and methanol, ethanol, 1-propanol, 2-butanol, isobutanol, and tert-butanol. In addition it names ternary azeotrope-like mixtures between HFE-7100, trans DCE and methanol, ethanol, 1-propanol, 2-propanol (IPA), and tert-butanol. Further the patent discloses other ternary azeotrope-like mixtures between HFE-7100, HCFC-225 (a hydrofluorinated-chlorinated solvent) and methanol or ethanol. Most of the combinations with HFE-7100 described in these patents are non-flammable and show acceptable flammability character when high levels of HFE-7100 are present. Ternary azeotrope like combinations with halogenated solvents are not as flammable but like HFC-4310, form azeotrope-like mixtures at dichloroethylene levels of near and/or less

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than 50 wt % of the mixture.

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Doyel (US6689734).

Doyel teaches in example 20 a composition containing propyl bromide, HFE7100 and methanol.

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Degroot (US6660701).

Concerning the methyl nonafluoroisobutyl ether, methyl nonafluorobutyl ether and the methanol,

Degroot teaches the following:

U.S. Pat. No. 6,048,832 to Thenappan describes azeotrope-like compositions of 1-bromopropane, 4-methoxy-1,1,1,2,2,3,3,4,4-nonafluorobutane (HFE-7100) and at least one organic solvent selected from the group consisting of methanol, ethanol, 2-propanol, 2-methyl-2-propanol, tetrahydrofuran, nitromethane, and methylene chloride and more particularly to azeotrope-like compositions based on these compounds which are useful as solvents in refrigeration flushing, oxygen system cleaning and vapor degreasing applications.(see col. 2, lines 18-29).

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Doyel, Kyle (US20030083220).

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In table 3, Doyel teaches a composition containing 75% propyl bromide, 20% HFE-7100, and 5% methanol.

Claim 3 is rejected under 35 U.S.C. 102(e) as being anticipated by Doyel, Kyle (US 20030083220 A1)

Doyel teaches in the claims the following compositions:

70. An azeotropic or azeotrope-like composition as defined in claim 1, comprising about 69-89 weight percent NPB and about 11-31 weight percent methanol.

71. An azeotropic or azeotrope-like composition as defined in claim 70, comprising about 79 weight percent NPB and about 21 weight percent methanol, having a boiling point of about 135.degree. F. (about 57.degree. C.).

94. An azeotropic or azeotrope-like composition as defined in claim 1, comprising about 17-37 weight percent n-propyl bromide (NPB), about 66-86 weight percent nonafluorobutane methyl ether (HFE-7100) and about 0.1-14 weight percent methanol.

95. An azeotropic or azeotrope-like composition as defined in claim 94, comprising about 16.9 weight percent n-propyl bromide (NPB), about 75.6 weight percent nonafluorobutane methyl ether (HFE-7100) and about 7.5 weight percent methanol, having a boiling point of about 116.degree. F. (about 47.degree. C.).

104. An azeotropic or azeotrope-like composition as defined in claim 1, comprising about 7-27 weight percent n-propyl bromide (NPB), about 66-86 weight percent 1,1,1,2,3,4,4,5,5,5 decafluoropentane (HFC-43-10mee), and about 7-27 weight percent methanol.

105. An azeotropic or azeotrope-like composition as defined in claim 104, comprising about 16.5 weight percent n-propyl bromide (NPB), about 76.0 weight percent 1,1,1,2,3,4,4,5,5,5 decafluoropentane (HFC-43-10mee), and about 7.5 weight percent methanol, having a boiling point of about 116.degree. F. (about 47.degree. C.).

116. An azeotropic or azeotrope-like composition as defined in claim 1, comprising about 5-25 weight percent NPB, 69-89 weight percent nonafluorobutylethylene (PFBET), and 0.1-18 weight percent methanol.

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117. An azeotropic or azeotrope-like composition as defined in claim 116, comprising about 15 weight percent NPB, 79 weight percent PFBET, and 8 weight percent methanol, having a boiling point of about 113.degree. F. (about 45.degree. C.).

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory E. Webb whose telephone number is 571-272-1325.

The examiner can normally be reached on 9:00-17:30 (m-f).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Gregory E. Webb  
Primary Examiner  
Art Unit 1751

gew